DS8100A-3002

QUICK REFERENCE GUIDE

NOTE

This manual illustrates a typical Local Lonworks network application. For more details refer to the DS8100A Reference Manual available on the CD. For complete scanner configuration using the Genius™ configuration program refer to the Help On Line.

821001265 (Rev. F)

UPDATES AVAILABILITY

UK/US The latest drivers and documentation updates for this product are available on Internet. Log on to: **www.automation.datalogic.com**

I Su Internet sono disponibili le versioni aggiornate di driver e documentazione di questo prodotto. Collegarsi a: **www.automation.datalogic.com**

F Les versions mises à jour de drivers et documentation de ce produit sont disponibles sur Internet. Cliquez sur : **www.automation.datalogic.com**

D Im Internet finden Sie die aktuellsten Versionen der Treiber und Dokumentation von diesem Produkt. Adresse : **www.automation.datalogic.com**

E En Internet están disponibles las versiones actualizadas de los drivers y documentación de este producto. Dirección Internet : **www.automation.datalogic.com**

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  Search through the links to arrive at your product page which describes specific Info, Features, Applications, Models, Accessories, and Downloads including the Genius™ utility program, which allows device configuration using a PC. It provides RS232 and Ethernet interface configuration.

- **SERVICE**
  - **Overview -** Warranty Extensions and Maintenance Agreements
  - **Sales Network-** Listing of Subsidiaries, Repair Centers, Partners
  - **Helpdesk**
  - **Material Return Authorization**

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DS8100A-3002 GENERAL VIEW

Figure A

1 Laser Beam Output Window

Figure B

1 Programming Keypad
2 Power On LED (Green)
3 Phase On LED (Yellow)
4 Encoder LED (Yellow)
5 TX Data LED (Green)
6 Network LED (Red)
7 LCD Display

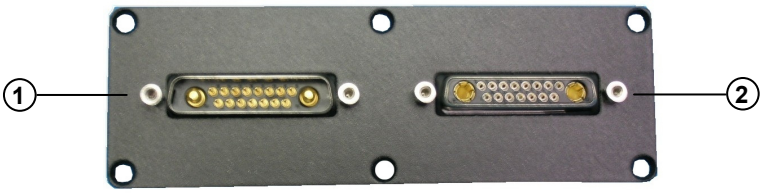
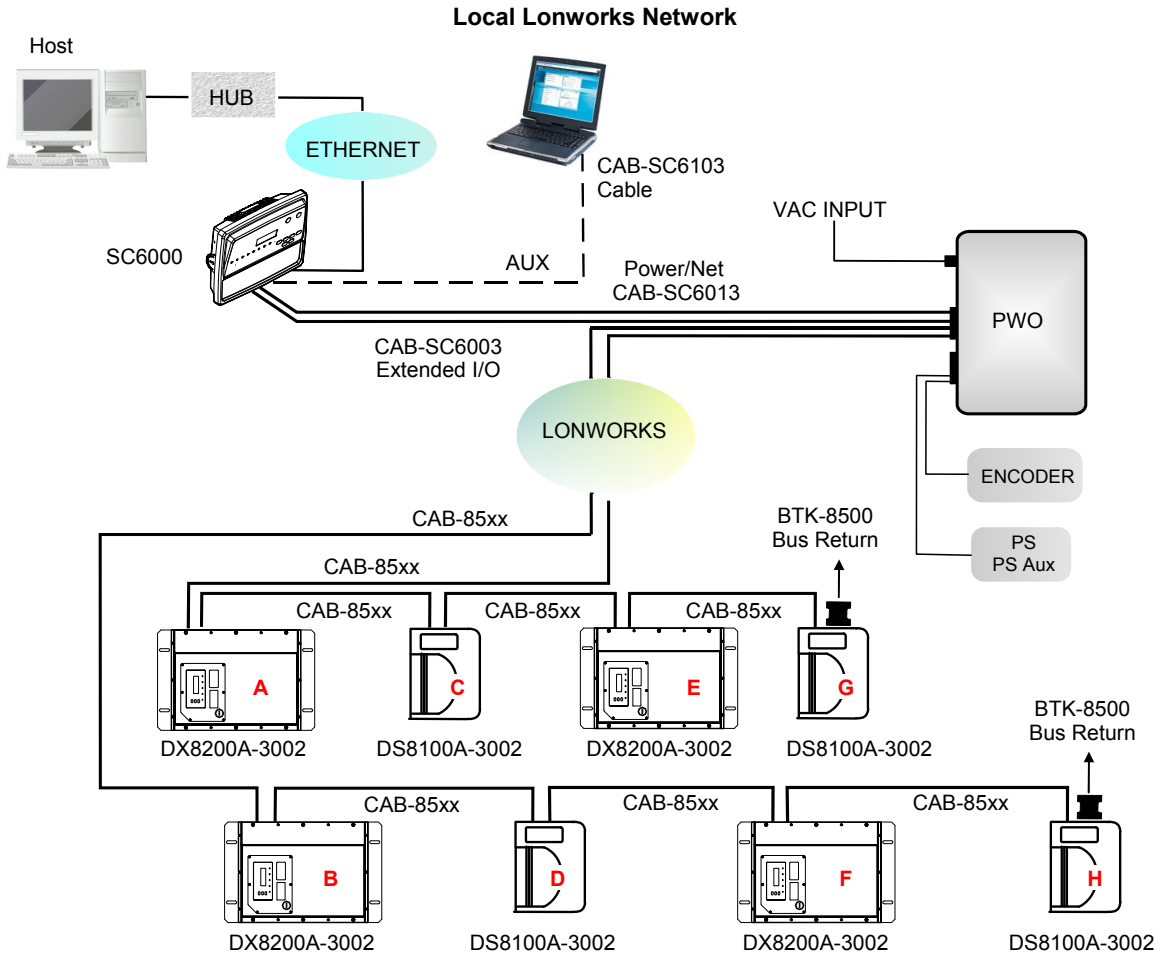


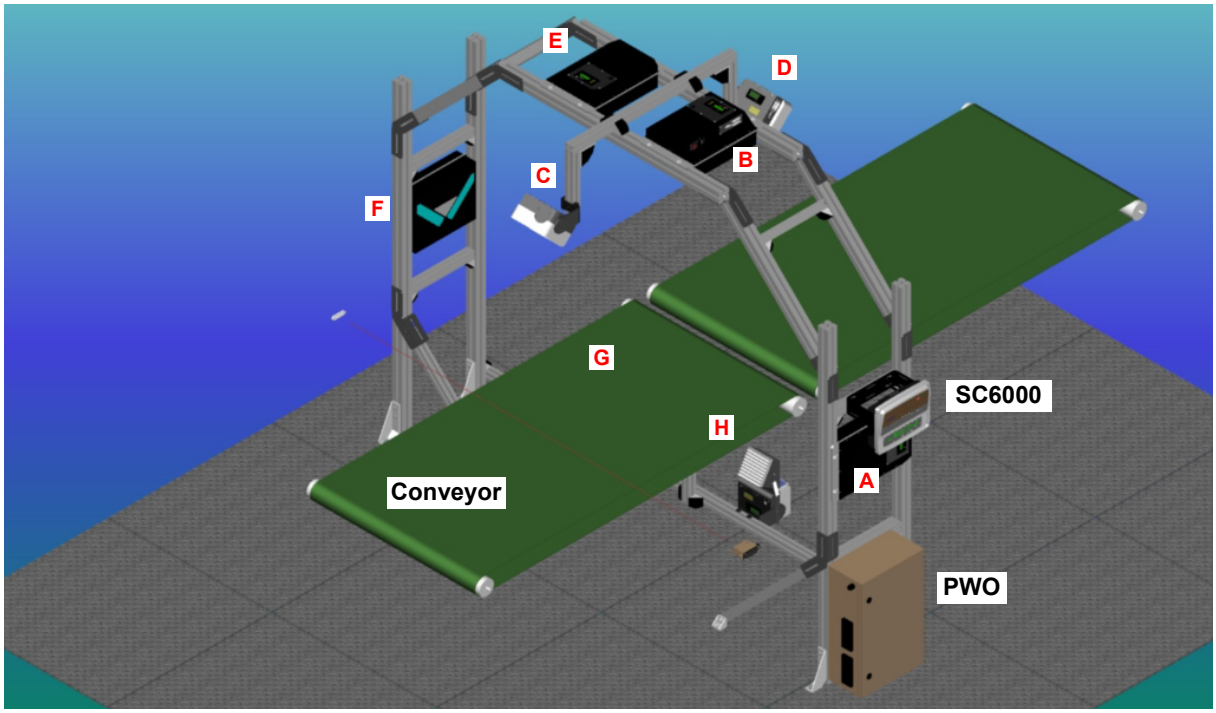
Figure C

1 Lonworks 17-pin Male Connector
2 Lonworks 17-pin Female Connector

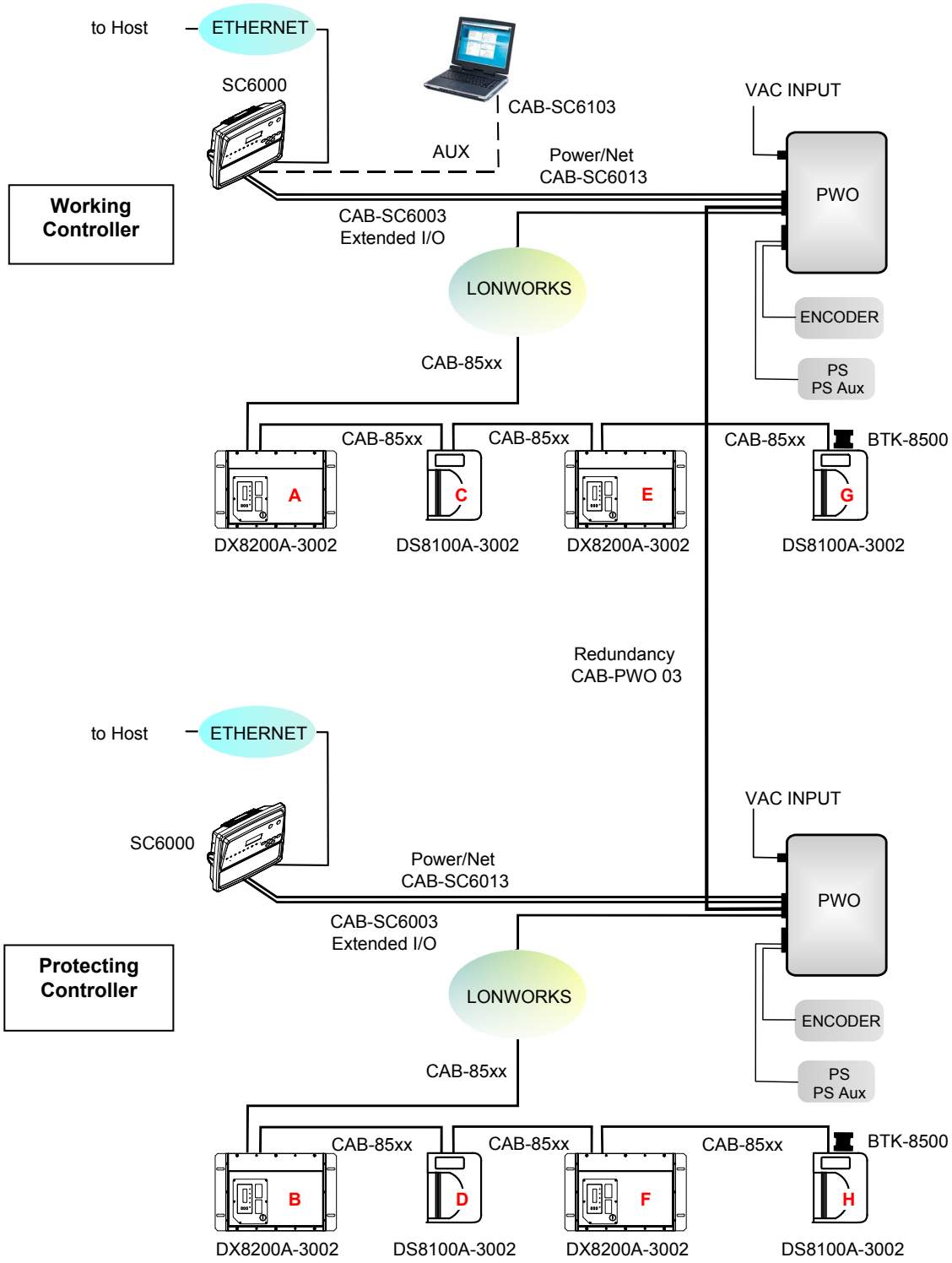
CONNECTIVITY



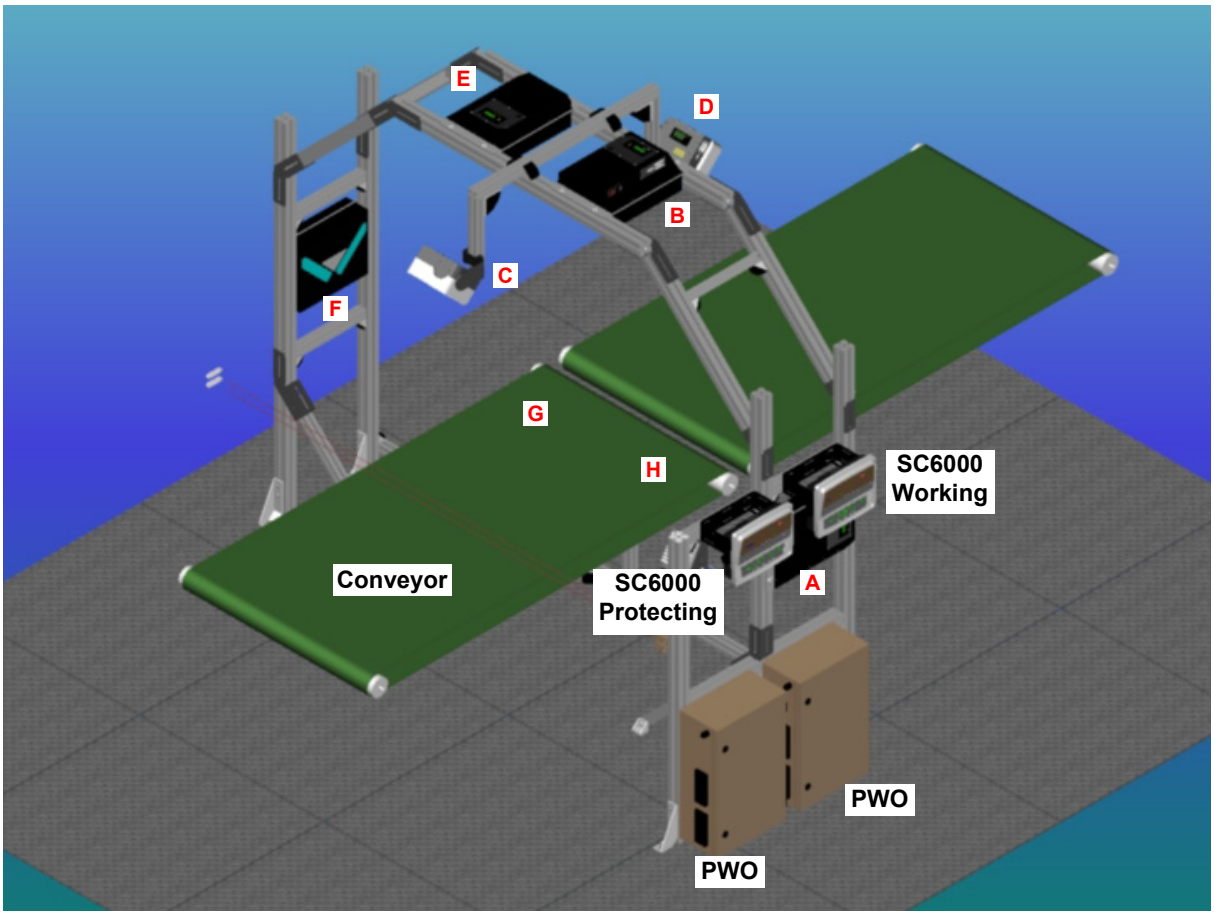
Large Synchronized Network with DX8200A and DS8100A Scanners



Example Large Synchronized Network Reading Station



Redundant Reading Station Layout with DX8200A and DS8100A Scanners



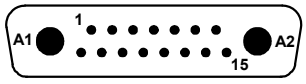
Example Redundant Reading Station

ELECTRICAL CONNECTIONS

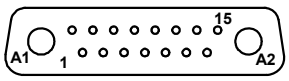
Two 17-pin connectors provide access to the scanner's local Lonworks network used for both input and output connections to build a multi-sided or omni-station system.

17-pin Lonworks Connector Pinout

Pin	Name	Function
A1	GND	Supply voltage (negative pin)
A2	VS	Supply voltage 20 to 30 Vdc (positive pin)
1	CHASSIS	Cable shield A - internally connected by capacitor to chassis
2	n.c.	Not connected
3	CHASSIS	Cable shield B - internally connected by capacitor to chassis
4	TXAUX	Transmit data of auxiliary RS232 (referred to SGND)
5	SGND	Signal ground (connected to GND)
6	RXAUX	Receive data of auxiliary RS232 (referred to SGND)
7	VS_I/O	Supply voltage of I/O circuit
8	Lon A+	Lonworks a line (positive pin)
9	Lon A-	Lonworks a line (negative pin)
10	Lon B+	Lonworks b line (positive pin)
11	Lon B-	Lonworks b line (negative pin)
12	SYS_I/O	System signal
13	SYS_ENC_I/O	System signal
14	Reserved	Internally connected
15	Ref_I/O	Reference voltage of I/O circuit



Male - Input



Female - Output

17-pin Local Lonworks Connectors

APPENDIX

TECHNICAL FEATURES

ELECTRICAL FEATURES		
Supply Voltage	20 to 30 Vdc	
Power Consumption	20 W typical 1.3 to 0.9 A max. (including startup current)	
Communication Interfaces	**Auxiliary**	**Baud Rate**
	RS232	1200 to 115200
	Other	
	Lonworks	1.25 Mb/s
OPTICAL FEATURES		
Light Receiver	Avalanche photodiode	
Safety Class	630 to 680 nm	
Wavelength	Class 2-EN 60825-1; Class II-CDRH	
Laser Control	Security system to turn laser off in case of motor slow down	
READING FEATURES		
Scan Rate	≤ 1000 scans/s	
Max. Resolution Max. Read. Distance Max. Read. Width Max. Depth of Field	(see reading diagrams)	
USER INTERFACE		
LCD Display	2 lines by 20 characters LCD	
Keypad	3 keys	
LED Indicators	Power ON (green) Phase ON (yellow) Encoder (yellow) TX Data (green) Network (red)	
SOFTWARE FEATURES		
Readable Codes	Interleaved 2/5 Code 39 Standard Codabar Code 128 GS1-128 (ex EAN 128) Code 93 (standard & full ASCII) EAN/UPC (including Add-on 2 and Add-on 5) GS1 DataBar (including Limited and Expanded)	
Code Selection	Up to 10 codes during one reading phase	
Operating Modes	PackTrack™	
Configuration Mode	Genius™ utility program	
Parameter Storage	Non-volatile internal FLASH	
ENVIRONMENTAL FEATURES		
Operating Temperature	0° to +50 °C (+32 to +122 °F)	
Storage Temperature	20° to +70 °C (-4° to +158 °F)	
Humidity	-90% non condensing	
Vibration Resistance EN 60068-2-6	14 mm @ 2 to 10 Hz; 1.5 mm @ 13 to 55 Hz 2 g @ 70 to 200 Hz; 2 hours on each axis	
Shock Resistance EN 60068-2-27	30 g; 11 ms 3 shocks on each axis	
Protection Class EN 60529	IP65*	
PHYSICAL FEATURES		
Dimensions mm (inch)	217 x 173 x 127 (8.54 x 6.79 x 4.98)	
Weight	5 Kg (11 lbs.)	

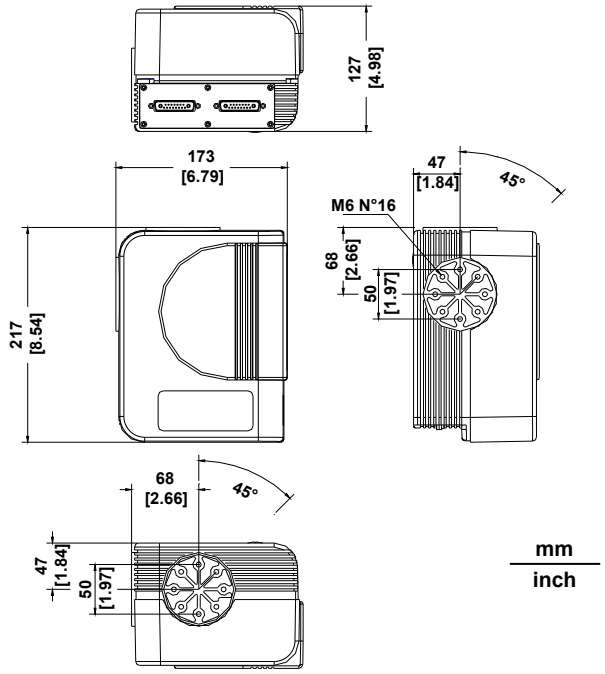
* IP65 cables and connectors required (CAB-850x or BTK-8500).

ACCESSORIES

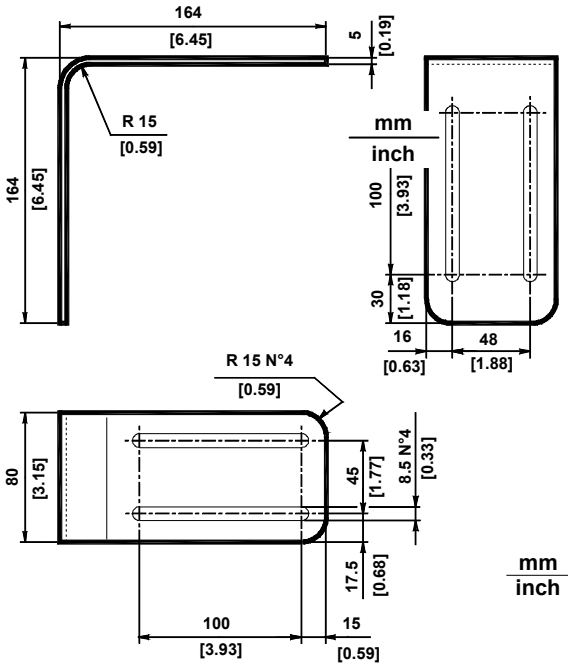
Name	Description	Part Number
Power Supply		
PWO-480	Power and Connect System 480W	93ACC1767
Cables and Terminators		
BTK-8100	Bus Terminator Kit (5 pcs)	93ACC1090
BTK-8500	IP65 Terminator Kit (2 pcs)	93A051286
CAB-8100	10 wire shielded cable D 9.5 mm – 50 m	93ACC1120
CAB-8101	17-pin scanner/scanner connection cable 1.2 m	93A051020
CAB-8102	17-pin scanner/scanner connection cable 2.5 m	93A051030
CAB-8105	17-pin scanner/scanner connection cable 5 m	93A051040
CAB-8501	IP65 Cable Fam 8K 1,2 m	93A051283
CAB-8502	IP65 Cable Fam 8K 2,5 m	93A051284
CAB-8505	IP65 Cable Fam 8K 5 m	93A051285
Sensors		
S30	Photocell Kit	93ACC1782
MEP-593	Photocell kit – PNP (PH-1)	93ACC1791
MEP-543	Photocell Kit – NPN	93ACC1728
OEK-2	Optical Encoder Kit + 10 m cable + Spring	93ACC1770
OEK-1	Optical Encoder Kit + 10 m cable	93ACC1600
Deflection Mirrors		
GFC-80	90° mirror	93A251020
GFC-800A	Adjustable Mirror for Close Distance Reading	93A201114
Brackets		
FBK-8100	Fast bracket kit (2 pcs)	93ACC1130
US-8100	Bracket kit (10 pcs)	93ACC1140
FS-1	Frame Shaper (8 pcs)	93ACC1750
Miscellaneous		
PLL-8000	Optocoupled PLL device	93ACC1280
ACS-81	Air cleaning system	93ACC1430

MECHANICAL INSTALLATION

DS8100A-3002 can be installed to operate in any position. There are 16 screw holes (M6 X 8) on the sides of the scanner for mounting. The following diagrams give the overall dimensions of the reader standard model and mounting bracket. They may be used for their installation:



DS8100A-3002 Overall Dimensions



ST-163 Mounting Bracket Overall Dimensions

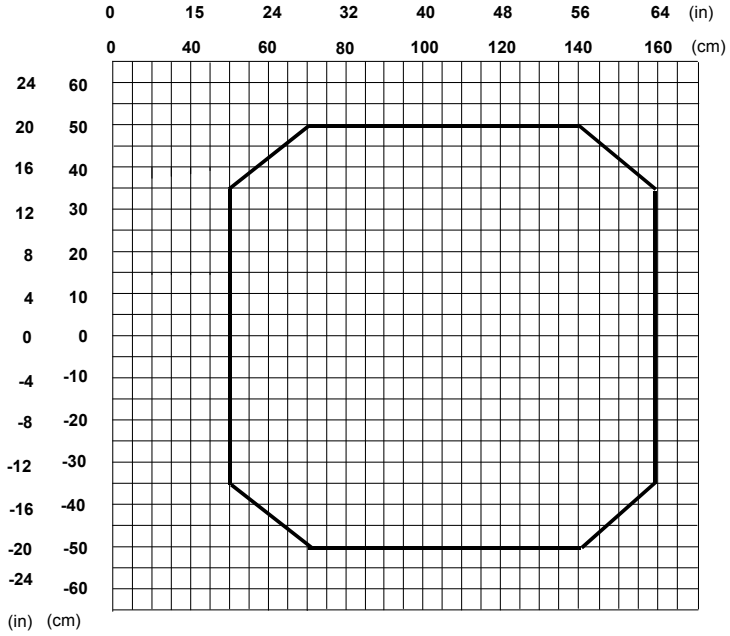
WARNING

When installing several scanners, take care to position them correctly so that no laser beam enters the reading window perpendicularly and at the same level of the output beam of the other scanners. This condition could occur more frequently for side mounted applications. If these precautions are not followed, it may occur that the laser of the blinded scanner starts blinking due to an internal circuit which temporarily turns the laser off when detecting a power anomaly. To resolve this problem, it is sufficient to slightly change the inclination and position of one of the two scanners involved.

READING DIAGRAMS

Note: (0,0) is the center of the laser beam output window.

DS8100A-3002 – 0.50 mm/20 mils



CONDITIONS

Code = Interleaved 2/5 or Code 39

PCS = 0.90

“Pitch“ angle = 0°

“Skew“ angle = 10°

“Tilt“ angle = 0°

COMPLIANCE

See the DS8100A Reference Manual for the Declaration of Conformity.

LASER SAFETY

Figure A

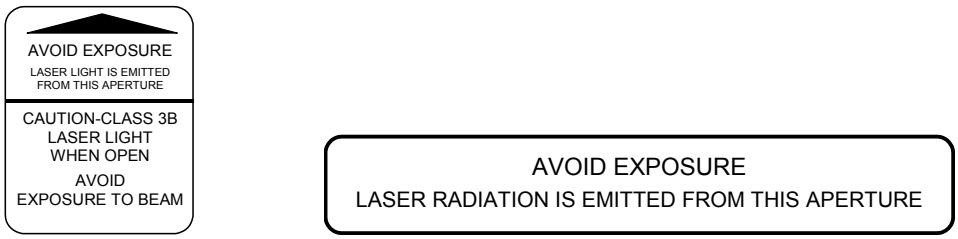
1 Laser Safety Label
2 Warning and Device Class Label
3 Identification Label

The scanner is classified as a Class 2 laser product according to EN60825-1 regulations and as a Class II laser product according to CDRH regulations.

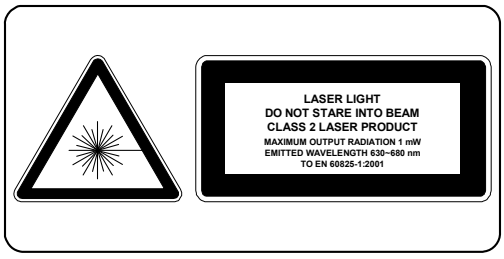
Disconnect the power supply when opening the device during maintenance or installation to avoid exposure to hazardous laser light.

There is a safety device, which allows the laser to be switched on only if the motor is rotating above the threshold for its correct scanning speed.

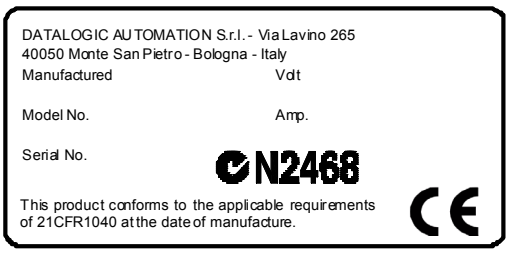
The laser beam can be switched off through a software command (see also the Genius™ Help On-Line).


AVOID EXPOSURE
LASER LIGHT IS EMITTED FROM THIS APERTURE
CAUTION-CLASS 3B LASER LIGHT WHEN OPEN
AVOID EXPOSURE TO BEAM
AVOID EXPOSURE
LASER RADIATION IS EMITTED FROM THIS APERTURE

Laser Safety Label



Warning and Device Class Label



Device Identification Label

The laser diodes used in this device are classified as Class 3B laser products according to EN 60825-1 regulations and as Class IIIb laser products according to CDRH regulations. Any violation of the optic parts in particular can cause radiation up to the maximum level of the laser diode (30 mW at 630~680 nm).

FCC COMPLIANCE

Modifications or changes to this equipment without the expressed written approval of Datalogic could void the authority to use the equipment.

This device complies with PART 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference which may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

POWER SUPPLY

This product is intended to be installed by Qualified Personnel only.

- This scanner is intended to be supplied by either a UL Listed power supply marked 'Class 2' or 'LPS', output rated 20 - 30 V dc , minimum 1.3 A or by a UL Listed computer with LPS outputs.

- This scanner must be supplied by a Class II Power Supply Unit conforming to the EN 60950 safety regulation.

CE COMPLIANCE

Warning:
This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

PATENTS

This product is covered by one or more of the following patents.

U.S. patents: Re. 36,251; 5,992,740; 6,347,740 B1; 6,177,979 B1; 6,394,352 B1; 6,443,360 B1; 6,527,184 B1; 6,629,639 B2; 6,742,710 B2; 7,161,685 B1.

European patents: 652,530 B1; 789,315 B1; 851,376 B1; 926,615 B1; 959,426 B9; 1,217,571 B1; 1,363,228 B1; 1,607,901 B1.

Japanese patents: 3,793,585 B2; 4,033,958 B2; 4,376,353 B2.